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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,604	06/15/2000	HIROKAZU TANAKA	1217-001125	9815

7590 03/10/2003

RUSSELL D ORKIN  
700 KOPPERS BUILDING  
436 SEVENTH AVENUE  
PITTSBURGH, PA 15219-1818

EXAMINER

AHMED, SHEEBA

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

09/581,604

Applicant(s)

TANAKA ET AL.

Examin r

Sheeba Ahmed

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicants Request for Reconsideration and a Declaration under 37 CFR 1.132, dated December 20, 2002, has been received and entered in the above-identified application. **Claims 1-14 are now pending.**

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kayanoki (US 5,963,373).

Kayanoki disclose a plastic lens comprising a plastic lens substrate **(corresponding to the substrate of the claimed invention)** and a hard coating applied thereon. The hard coating **(corresponding to the coating liquid and the hard coat film of the claimed invention)** comprises fine particles of a composite oxide **(corresponding to the composite metal oxide particles of the claimed invention)** having an average particle diameter in the range of from 1 to 100 nm **(thus meeting the particle size limitations)** and an epoxy group containing silicon compound **(corresponding to the matrix-forming component of the claimed invention)**. The composite oxide is preferably composed of iron oxide, titanium oxide and a silica

component. The weight ratio of the iron oxide to the titanium oxide is in the range of 0.005 to 1.0 and the weight ratio of silica to the sum of the iron oxide and titanium oxide is in the range of 0.001 to 1.0. The fine particles are surface treated with an organosilicon compound (***thus meeting the limitations of claims 3 and 6***) (Column 7, lines 25-67 and Column 9, lines 28-30). The hard coating may be provided with a mono-layered or multi-layered anti-reflection film (***thus meeting the limitations of claims 5 and 10-12***) (Column 11, lines 38-43).

Kayanoki does not specifically disclose that the weight ratio of the iron oxide to the titanium oxide may be 0.0005 to less than 0.005 (*as recited in independent claims 1 and 2*) or 0.001 to 0.0045 (*as recited in dependent claims 13 and 14*).

However, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). In this case, it would have been obvious to one having ordinary skill in the art to have expected the same properties (i.e., surface hardness, appearance, adhesion properties) for a hard coat film comprising composite metal oxide particles of iron oxide and titanium oxide wherein the weight ratio of the iron oxide to the titanium oxide is 0.0045 or 0.0045 to less than 0.005.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection. Furthermore, the Declaration under 37

CFR 1.132 filed on December 20, 2002 (Paper No. 14) is insufficient to overcome the rejection of claims 1-14 based upon Kayanoki (US 5,963,373) as set forth in Paragraph No. 2 of this Office action. The Applicants provide experimental results that are given in Tables A of the Declaration and assert that the experimental data demonstrates unexpected improvements (i.e., improved photochromism and improved water resistance) for the hard coat film comprising composite metal oxides having the claimed weight ratio of the iron oxide to the titanium oxide. The experimental data given in Table A ranges from 0.0004 to 0.007 whereas the instant invention claims that the weight ratio of the iron oxide to the titanium oxide in the composite metal oxide particles is 0.0005 to less than 0.005. There are only two data points (1/499 and 1/999) within the claimed range and hence the Examiner takes the position that such a showing is not commensurate with the scope of the claimed range of the weight ratio of the iron oxide to the titanium oxide. The range of data exemplified in the showing is not commensurate with the entire range claimed. Specifically, there are no data points towards the lower limit of the weight ratio range (i.e., towards 0.0005) and towards the upper limit of the weight ratio range (i.e., towards 0.0045 to less than 0.005).

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (703)305-0594. The examiner can normally be reached on Mondays and Thursdays from 8am to 6pm.

Art Unit: 1773

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703)308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-5408 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5665.

A handwritten signature in black ink, appearing to read 'Sheeba Ahmed', with a stylized, cursive script.

Sheeba Ahmed  
March 6, 2003